



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/538,788 | 06/10/2005 | Matthew Francis | MERCK-3035 | 4313 |

23599 7590 10/27/2006

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
2200 CLARENDON BLVD.
SUITE 1400
ARLINGTON, VA 22201

EXAMINER

WU, SHEAN CHIU

ART UNIT PAPER NUMBER

1756

DATE MAILED: 10/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/538,788

Applicant(s)

FRANCIS ET AL.

Examiner

Shean C. Wu

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-44 is/are rejected.
- 7) ☒ Claim(s) 17,19,24 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Claim Objections

1. Claims 17 are objected to because of the following informalities:

In Claim 17, the numbers (III-VII) of formulae are not labeled after the chemical structure.

In Claim 19, the numbers (I and II) of formulae are not labeled after the chemical structure.

In Claim 24, the numbers (XI-XIV) of formulae are not labeled after the chemical structure.

In Claim 29, the numbers (XV-XXII) of formulae are not labeled after the chemical structure.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 2001/40,853 in view of Jacob et al. (US 20020086120).

The zenithal bistable liquid crystal device is known in the art (Jones et al., "Novel Configuration of the Zenithal Bistable Nematic Liquid Crystal Device", SID Digest 1998,

Art Unit: 1756

pp. 858-861 and "Optimisation of the Zenithal Bistable Nematic Liquid Crystal Device", Asia Display 98, pp. 1051-1054) with the present components including the alignment grating are disclosed by WO 2001/40,853.

WO '853 differs from the present claims in that the present claims have more specific liquid crystal composition. Jacob discloses the reference liquid crystal displays, in particular STN display, with low addressing voltages and low to moderate multiplex ratios comprise liquid crystal medium having a high dielectric anisotropy and with a relatively broad operating temperature range. The ME2N.F, ME3N.F, ME4N.F and ME5N.F (total 58%) and HP-3N.F, HP-4N.F and HP-5N.F (15%) read on the present formulae III and II, respectively. The additional compounds are disclosed in the reference Examples 1 (PCH-3N.F.F, CPTP-302, CCZU-2-F, CCZU-3-F, CCZU-5-F, CCPC-33 and CCPC-34), which read on the present formulae IX, IV, V and VII. Other additional compounds of the present invention are also can be found in the reference examples.

Because Jacob et al disclose the nematic liquid crystal mixture having high dielectric anisotropy, therefore, it would have been obvious to those skilled in the art to utilize the liquid crystal mixture having high dielectric anisotropy of Jacob in the zenithal bistable liquid crystal device of WO '853 to arrive at the claimed invention.

4. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacob et al. (US 20020086120).

The reference teaching has set forth in the section 3 above. The reference differs from the claimed medium in that the claimed medium is not exemplified in the reference. However, the compounds of IIID and IIIE (CBC-nm or CBC-nm.F) in the present claims are disclosed by the reference and serve the same purposes (see III3c, III3d on col. 11 and Examples 16-18 and 22), therefore, it would have been obvious to those skilled in the art to add or substitute these compounds for CCPC-nm in the reference Example 1 to arrive at the claimed medium.

Response to Arguments


5. Applicant's arguments filed 8/18/06, with respect to the rejections in the previous Office action have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new grounds of rejection are made in view of Jacob et al. (US 20020086120). See sections 3 and 4 above.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1756

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Shean C. Wu
Primary Examiner
Art Unit 1756

SCW